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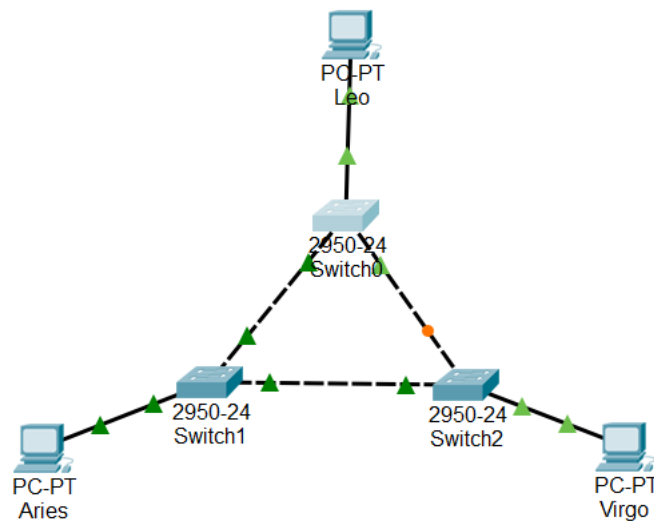
NIM : L200180105

Kelas : C

MODUL 6

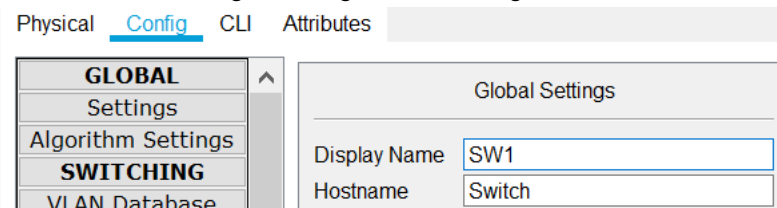
1. Kegiatan 1. Topologi 1

- a. Menggunakan PACKET TRACER buat topologi berikut ini dengan menggunakan switch Catalyst 2950



Tugas 1A: Tulis langkah pembuatan topologi.

- 1) Masuk ke aplikasi Cisco Packet Tracer
 - 2) Pilih pada tab 'End Devices' dan klik 'PC'
 - 3) Drag ke tempat pengerjaan dan lakukan sebanyak 3 kali
 - 4) Pilih pada tab 'Switches' dan klik switch 2950-24
 - 5) Drag ke tempat pengerjaan dan lakukan sebanyak 3 kali
 - 6) Hubungkan dengan kabel
- b. Beri nama masing-masing switch dengan SW1,SW2,SW3



Physical Config CLI Attributes

GLOBAL	Global Settings
Settings	Display Name <input type="text" value="SW2"/>
Algorithm Settings	Hostname <input type="text" value="Switch"/>
SWITCHING	
VLAN Database	

Global Settings

Display Name

Hostname

Tugas 2A: Tulis langkah pemberian nama switch mulai dari model user.

SW1

```
Switch(config)#hostname SW1
SW1(config)#end
SW1#
%SYS-5-CONFIG_I: Configured from console by console
```

SW2

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Switch(config)#hostname SW2
SW2(config)#end
SW2#
%SYS-5-CONFIG_I: Configured from console by console
```

SW3

```
Switch>#
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Switch(config)#hostname SW3
SW3(config)#end
SW3#
%SYS-5-CONFIG_I: Configured from console by console
```

c. Konfigurasi masing-masing PC dengan alamat IP:

- Leo = 172.21.1.1/24

Leo

Physical Config Desktop Programming Attributes

IP Configuration

Interface

IP Configuration

☐ DHCP ☒ Static

IP Address

Subnet Mask

Default Gateway

DNS Server

- Aries = 172.21.1.2/24

 Aries

Physical	Config	Desktop	Programming	Attributes
IP Configuration				
Interface		FastEthernet0		
IP Configuration				
<input type="radio"/> DHCP		<input checked="" type="radio"/> Static		
IP Address		172.21.1.2		
Subnet Mask		255.255.0.0		
Default Gateway		0.0.0.0		
DNS Server		0.0.0.0		

- Virgo = 172.21.1.3/24

 Virgo

Physical	Config	Desktop	Programming	Attributes
IP Configuration				
Interface		FastEthernet0		
IP Configuration				
<input type="radio"/> DHCP		<input checked="" type="radio"/> Static		
IP Address		172.21.1.3		
Subnet Mask		255.255.0.0		
Default Gateway		0.0.0.0		
DNS Server		0.0.0.0		

- d. Pada model user atau mode privileged, lihat status STP pada masing-masing switch. Langkah pengoperasian
- Tekan enter
 - Masuk mode privileged(optional)
 - Ketik show spanning-tree

SW1

SW1#

SW2

SW2#

SW3

SW3#

Tugas 4B: Untuk tiap tiap switch, isikan tabel berikut:

SW1

No	Variabel	Nilai
1.	Root ID	32769:0001.435B.CE23
2.	Priority	32769
3.	MAC Addrress	0002.4A11.B70B
4.	Bridge ID	32769:0002.4A11.B70B
5.	Cost(0/1;0/2;0/3)	19;19;19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW2

No	Variabel	Nilai
1.	Root ID	32769:0001.435B.CE23
2.	Priority	32769
3.	MAC Addrress	0001.435B.CE23
4.	Bridge ID	32769:0001.435B.CE23
5.	Cost(0/1;0/2;0/3)	19;19;19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW3

No	Variabel	Nilai
1.	Root ID	32769:0001.435B.CE23
2.	Priority	32769
3.	MAC Addrress	0060.5CD0.4297
4.	Bridge ID	32769:0060.5CD0.4297
5.	Cost(0/1;0/2;0/3)	19;19;19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

Tugas 4C: Pada kondisi default tersebut, switch dan port mana saja yang:

- Menjadi root bridge : SW2
- Menjadi designated bridge : SW1

- Menjadi root port : SW1 (Fa0/2), SW3 (Fa0/1)
- Menjadi designated bridge : SW1 (Fa0/1;Fa0/3), SW2 (Fa0/1;Fa0/2;Fa0/3), SW3 (Fa0/3)

Tugas 4D: Pada kondisi default tersebut, port mana saja yang:

- Berada pada keadaan forwarding : SW1 (Fa0/1;Fa0/2;Fa0/3), SW2 (Fa0/1;Fa0/2;Fa0/3), SW3 (Fa0/1;Fa0/3)
- Berada pada keadaan blocking : SW3 (Fa0/1)

e. Dari PC Leo lakukan ping ke PC Virgo

```

Command Prompt

Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=87ms TTL=128
Reply from 172.21.1.3: bytes=32 time=18ms TTL=128
Reply from 172.21.1.3: bytes=32 time=12ms TTL=128
Reply from 172.21.1.3: bytes=32 time=17ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 12ms, Maximum = 87ms, Average = 33ms

C:\>

```

Tugas 5A: Tulis langkah untuk melakukan perintah ping

- Klik pada PC Leo
- Pilih tab desktop
- Pilih command prompt
- Ketik ping 172.21.1.3

f. Simpan konfigurasi jaringan dengan nama lab2.nwc

Tugas 6A: Tulis langkah untuk menyimpan konfigurasi jaringan.

SW1

```

SW1#write
Building configuration...
[OK]
SW1#

```

SW2

```

SW2#write
Building configuration...
[OK]
SW2#

```

SW3

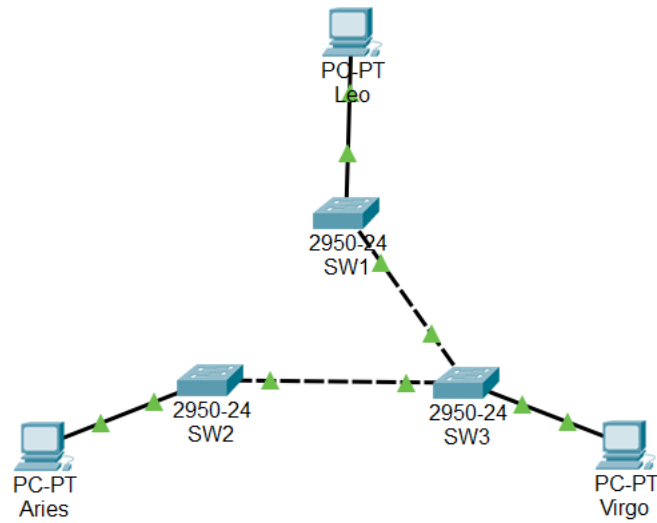
```

SW3#write
Building configuration...
[OK]
SW3#

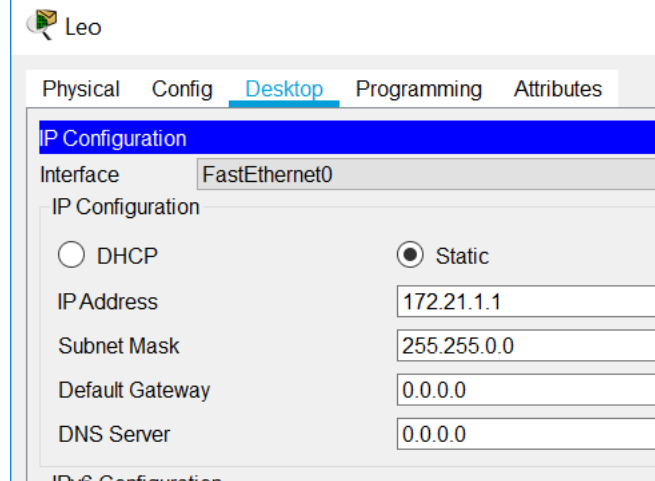
```

2. Kegiatan 2. Topologi 2

- Menggunakan PACKET TRACER ubah topologi menjadi seperti topologi berikut ini:



- konfigurasi masing-masing PC dengan IP:



Aries

Physical	Config	Desktop	Programming	Attributes
IP Configuration				
Interface		FastEthernet0		
IP Configuration				
<input type="radio"/> DHCP		<input checked="" type="radio"/> Static		
IP Address		172.21.1.2		
Subnet Mask		255.255.0.0		
Default Gateway		0.0.0.0		
DNS Server		0.0.0.0		

Virgo

Physical	Config	Desktop	Programming	Attributes
IP Configuration				
Interface		FastEthernet0		
IP Configuration				
<input type="radio"/> DHCP		<input checked="" type="radio"/> Static		
IP Address		172.21.1.3		
Subnet Mask		255.255.0.0		
Default Gateway		0.0.0.0		
DNS Server		0.0.0.0		

- c. Pada model user atau mode privileged, lihat status STP pada masing-masing switch. Langkah pengoperasian
- Tekan enter
 - Masuk mode privileged(optional)
 - Ketik show spanning-tree

d. Pada kondisi default, capture masing-masing switch

SW1

```
show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.435B.CE23
              Cost        38
              Port        3(FastEthernet0/3)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

    Bridge ID  Priority    32769  (priority 32768 sys-id-ext 1)
              Address     0002.4A11.B70B
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time  20
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/3	Root	FWD	19	128.3	P2p
Fa0/1	Desg	FWD	19	128.1	P2p

SW1#

SW2

```
show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.435B.CE23
              This bridge is the root
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

    Bridge ID  Priority    32769  (priority 32768 sys-id-ext 1)
              Address     0001.435B.CE23
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time  20
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/3	Desg	FWD	19	128.3	P2p
Fa0/2	Desg	FWD	19	128.2	P2p

SW2#

SW3

```
show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.435B.CE23
              Cost        19
              Port        1(FastEthernet0/1)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

    Bridge ID  Priority    32769  (priority 32768 sys-id-ext 1)
              Address     0060.5CD0.4297
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time  20
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/2	Desg	FWD	19	128.2	P2p
Fa0/3	Desg	FWD	19	128.3	P2p
Fa0/1	Root	FWD	19	128.1	P2p

SW3#

e. Untuk tiap switch, isikan tabel berikut:

SW1

No	Variabel	Nilai
1.	Root ID	32769:0001.435B.CE23
2.	Priority	32769
3.	MAC Address	0002.4A11.B70B
4.	Bridge ID	32769:0002.4A11.B70B
5.	Cost(0/1;0/3)	19;19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW2

No	Variabel	Nilai
1.	Root ID	32769:0001.435B.CE23
2.	Priority	32769
3.	MAC Address	0001.435B.CE23
4.	Bridge ID	32769:0001.435B.CE23
5.	Cost(0/2;0/3)	19;19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

SW3

No	Variabel	Nilai
1.	Root ID	32769:0001.435B.CE23
2.	Priority	32769
3.	MAC Address	0060.5CD0.4297
4.	Bridge ID	32769:0060.5CD0.4297
5.	Cost(0/1;0/2;0/3)	19;19;19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

f. Pada kondisi default tersebut, switch dan port mana saja yang:

- Menjadi root bridge : SW2
- Menjadi designated bridge : SW1

- Menjadi root port : SW1 (Fa0/3), SW3 (Fa0/1)
 - Menjadi designated bridge : SW1 (Fa0/1), SW2 (Fa0/2;Fa0/3),SW3 (Fa0/2;Fa0/3)
- g. Pada kondisi default tersebut, port mana saja yang :
- Berada pada keadaan forwarding : SW1 (Fa0/1;Fa0/3), SW2 (Fa0/2;Fa0/3), SW3 (Fa0/1;Fa0/2/Fa0/3)
 - Berada pada keadaan blocking : Tidak ada
- h. Test ping PC Leo ke PC Virgo

```
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=61ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time=18ms TTL=128
Reply from 172.21.1.3: bytes=32 time=3ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 61ms, Average = 20ms

C:\>|
```